


INTERPLANT STANDARD – STEEL INDUSTRY		
 IPSS	SPECIFICATION FOR WIRE ROPES FOR CRANE	IPSS:1-08-003-18 (Fourth Revision)
	Based on IS 2266:2002	Formerly: IPSS:1-08-009-09 (Third Revision)

0. FOREWORD

- 0.1** Interplant Standardization activity in Steel Industry is being pursued by IPSS Secretariat which functions under Centre for Engineering & Technology (CET), the in-house consultancy organization of SAIL.
- 0.2** This Interplant Standard discussed by the Standards committee on Lifting and Hoisting Equipment, IPSS 1:8 with the active participation of the representatives of SAIL, RINL, TISCO, ESSAR, JSPL, established manufacturers and its Consultants MECON, HEC, DASTURCO. This standard revised with fourth revision in **August, 2018**. This standard was earlier revised with third revision in March 2009.
- 0.3** Interplant Standards for steel industry primarily aim at achieving rationalization and unification of parts and assemblies used in steel plant equipment and provide guidance in indenting stores or equipment by individual steel plants. For exercising effective control on inventories, it is advisable to select a fewer number of sizes/types from those mentioned in this standard. These limited sizes/ types can be adopted as Plant Standards for an individual steel plant. It is not desirable to make deviations in technical requirements.

- 0.4** This Inter Plant Standard was first issued in April 1975 and was reviewed in 1983. In the second revision in 1994, the wire rope sizes 14&16 diameter with 6x37 (18/12/6/1) construction were deleted from Table-1. The values of minimum breaking load had also been corrected.
- 0.5** This revision incorporates the changes which have taken place after the revision of IS 2266 `Steel wire ropes for general engineering purposes - Specification (fourth revision)' in 2002, which this standard is based upon. Provision for post-formed wire ropes has also been incorporated in this revision.
- 0.6** The selection of the wire ropes used for cranes shall be done in accordance with IS 4137:1985 `Code of practice for heavy duty electric overhead traveling cranes including special service machines for use in steel works (first revision) '.

1. SCOPE

- 1.1** This inter plant standard covers the requirements of steel wire ropes for cranes used in steel industry, and is based on IS 2266:2002 `Steel wire ropes for general engineering purposes (fourth revision)' .

2. CONSTRUCTION

- 2.1** All wire ropes shall generally be ordinary lay right-hand preformed, post-formed and ungalvanized. However, right hand / left hand lay wire ropes shall be decided as per design requirement of the crane.
- 2.2** Three constructions, that is, 6x19 (12/6/1), and 6x36 (14/7 and 7/7/1) shall be followed as indicated in Table-1 & 2 as per wire rope quality 1770 N/mm² and 1960 N/mm² respectively. Table 1, 2 and 6 of IS 2266:2002 shall be referred respectively for mass and breaking force for rope construction 6x19 (12/6/1), 6x37 (18/12/6/1)) and 6x36 (14/7 and 7/7/1) and rope quality 1770 N/mm² and 1960 N/mm².

2.3 Wire ropes for cranes handling hot metal/hot application and under water application shall have steel core (IWRC).

2.4 Wire ropes used in acidic/humid atmosphere shall be galvanized.

3. FACTOR OF SAFETY

3.1 The factor of safety based on nominal breaking strength and safe working load of the rope, shall not be less than 8 for hot metal/hot application hoists and 6 for all other duties of cranes.